

GROUND PEARLS IN HOME LAWNS

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Ground pearls in home lawns are subterranean scale insects that feed on the roots of grasses. These insects are called "ground pearls" because of a pearl-like shell that encloses the immature stages. Hybrid bermudagrass, centipede grass, St. Augustine or carpet grass and zoysia have been found infested with ground pearls.

Description

The adult female ground pearl, called a "crawler," is small, soft-bodied, pinkish in color and wingless. It has very short legs with well-developed claws. The male is a gnat-like insect varying from 1/25 to 1/3 inch (1 to 8 mm) in length. When eggs deposited by crawlers hatch, the emerging young scale insects immediately start feeding on grass roots and cover themselves with hard, globular shells that are whitish and somewhat iridescent, resembling small pearls. As the immature scale inside the pearl grows larger, the pearl also increases in size. The pearl stage may reach about 1/8 inch in diameter.

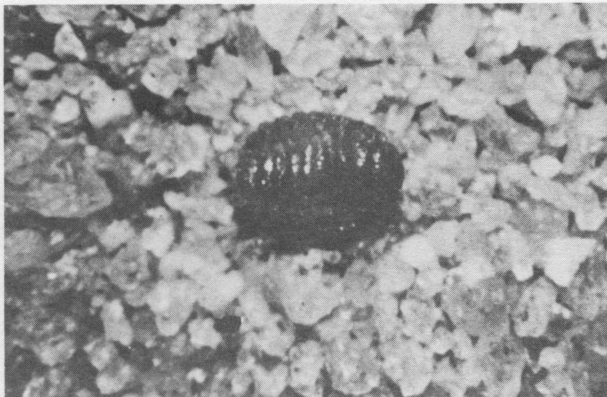
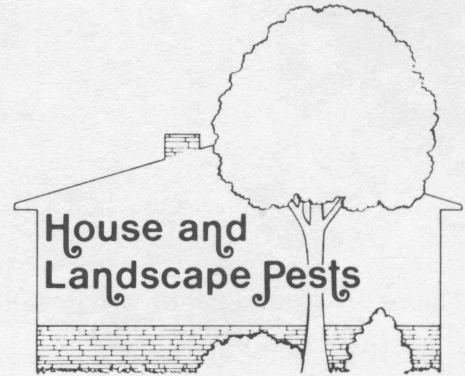


Figure 1. Female crawler after emergence from pearl stage.

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Biology and Habits

Various sizes of ground pearls may be found throughout the year in the soil of infested lawns. Females emerge from their shells when they reach maturity. Emergence usually occurs in May and June. Female crawlers move a short distance down in to the soil, secrete waxy filaments that cover their bodies and then start to lay eggs. Eggs are laid during June and July and hatch in July and August. After hatching, young scales crawl a short distance and attach themselves to grass roots with their mouthparts. Immediately after attachment, young scales lose their legs and develop a pearl-like covering around their bodies. There is primarily one generation a year, but some immature ground pearls require 2 years to reach maturity.

Ground pearl damage becomes evident in spring and during dry spells when small irregular areas of unthrifty or dead grass (6 inches up to 3 feet in diameter) appear. Soil samples can be taken to verify infestations. Only the upper 3 inches of soil should be examined for their presence. There is no known relationship between the number of ground pearls per unit of soil and extent of damage to grass. Ground pearl damage



Figure 2. Ground pearl damage in home lawn. Arrow indicates area to sample for presence of ground pearls.



Figure 3. Ground pearls on grass rootlets.

frequently is confused with damage from other pests (insects and diseases) and improper lawn care.

Control

Proper lawn fertilization, irrigation and other cultural practices help reduce damage from ground pearls. When establishing lawns with sod or sprigs, check roots for presence of ground pearls to avoid planting infested grass.

Timing of insecticide treatments is critical for ground pearl control. Malathion should be applied

when adult female crawlers are present in the soil (May until the first part of June). Insecticide treatments should be applied for 2 consecutive years for effective control, because no single application will result in long term ground pearl control.

To improve soil insect control in home lawns:

1. Mow lawn and remove grass clippings before treatment.
2. Prevent buildup of thatch in lawn area.
3. Apply about $\frac{1}{4}$ inch of water to the lawn before using spray formulations. This allows the spray to better penetrate the soil.
4. Granular applications should be followed immediately with a thorough lawn irrigation of $\frac{1}{2}$ to 1 inch of water.

Insecticide label clearances are subject to change and changes may have occurred since this publication was printed. The pesticide USER is always responsible for the effects of pesticides on his own plants or household goods as well as problems caused by drift from his property to other properties or plants. *Always read and follow carefully the instructions on the container label.*

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